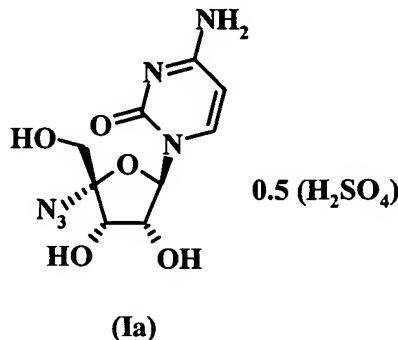


We Claim:

1. The hemisulfate salt of 1-[4(S)-azido-2(S),3(R)-dihydroxy-4-(hydroxymethyl)-1(R)-cyclopentyl] cytosine (**Ia**) and solvates thereof.



- 5 2. A polymorphic crystalline form (Form A) of said hemisulfate according to claim 1 with an x-ray powder diffraction trace having D-spacing essentially as shown:

D-space	I/I ₀ x 100	D-space	I/I ₀ x 100
17.5556	26.35	4.3828	35.14
10.2507	18.39	4.1366	78.45
8.5821	15.58	4.1093	83.40
7.2181	8.75	3.7211	18.57
6.2309	62.70	3.6167	56.83
5.8186	100	2.9787	32.98
5.5808	30.52		

3. A polymorphic crystalline form (Form B) of said hemisulfate according to claim 1 with an x-ray powder diffraction trace having D-spacing essentially as shown:

D-space	I/I ₀ x 100	D-space	I/I ₀ x 100
22.8037	21.10	4.3696	100
18.9103	13.09	4.1814	81.04
16.7391	36.12	3.3481	36.97
13.1075	18.80	3.2741	33.51
5.7242	74.54	2.6227	19.75

10

4. A polymorphic crystalline form (Form C) of said hemisulfate according to claim 1 with an x-ray powder diffraction trace having D-spacing essentially as shown:

D-space	I/I ₀ x 100	D-space	I/I ₀ x 100
7.7865	9.39	4.7788	100
6.1199	5.71	3.9577	46.41
6.0219	3.97	3.8939	71.89
5.6949	9.68	3.7099	90.29
5.4499	1.90	3.0178	26.81
5.1928	13.72	2.7752	12.02
4.9757	1.90		

5. A process for preparing a Form A polymorph of **Ia** with D-spaces essentially as shown

D-space	I/I _o x 100	D-space	I/I _o x 100
17.5556	26.35	4.3828	35.14
10.2507	18.39	4.1366	78.45
8.5821	15.58	4.1093	83.40
7.2181	8.75	3.7211	18.57
6.2309	62.70	3.6167	56.83
5.8186	100	2.9787	32.98
5.5808	30.52		

comprising crystallizing the compound (**I**) from an aged solution ethanol/sulfuric acid.

6. A process for preparing a Form B polymorph of **Ia** with D-spaces essentially as shown

D-space	I/I _o x 100	D-space	I/I _o x 100
22.8037	21.10	4.3696	100
18.9103	13.09	4.1814	81.04
16.7391	36.12	3.3481	36.97
13.1075	18.80	3.2741	33.51
5.7242	74.54	2.6227	19.75

5

comprising crystallizing (**I**) from isopropanol/water (85:15) and sulfuric acid.

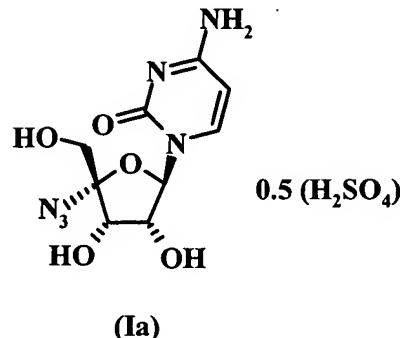
7. A process for preparing a Form C polymorph of **Ia** with D-spaces essentially as shown

D-space	I/I _o x 100	D-space	I/I _o x 100
7.7865	9.39	4.7788	100
6.1199	5.71	3.9577	46.41
6.0219	3.97	3.8939	71.89
5.6949	9.68	3.7099	90.29
5.4499	1.90	3.0178	26.81
5.1928	13.72	2.7752	12.02
4.9757	1.90		

10 comprising crystallizing **I** from isopropanol/water (60:40) in the presence of sulfuric acid.

8. A process according to claim 7 wherein the isopropanol/water is adjusted to a pH of about 5 to a pH of about 3 with sulfuric acid.

9. A method of treating a disease mediated by the Hepatitis C Virus comprising administering to a patient in need thereof, a therapeutically effective amount of a compound of formula **Ia**.



5

10. A method according to claim 9 wherein said compound is the Form A polymorph of **Ia**.

11. A method according to claim 9 wherein said compound is the Form B polymorph of **Ia**.

10 12. A method according to claim 9 wherein said compound is the Form C polymorph of **Ia**.

13. The method according to claim 9, wherein the hemisulfate salt of compound **I** is delivered in a dose of between 1 and 100 mg/kg/ body weight of the patient/day.

15 14. The method of claim 9, further comprising administering an immune system modulator.

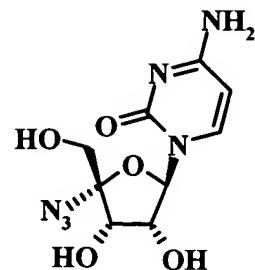
15 15. The method of claim 9, wherein the immune system modulator is interferon or a chemically derivatized interferon.

20 16. A method according to claim 9 wherein the patient is a human.

17. A pharmaceutical composition comprising the hemisulfate salt **Ia** in admixture with at least one pharmaceutically acceptable carrier or excipient.

25 18. A pharmaceutical composition according to claim 17 said hemisulfate salt is the Form C polymorph.

19. A composition according to claim 17 comprising a compound of formula I and a mixture of an alcohol, water and sulfuric acid.



(I)

5 20. A composition according to claim 19 wherein the alcohol is *iso*-propanol.

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